



PATENT

**EXPEDITED PROCEDURE
RESPONSE UNDER 37 CFR 1.116
GROUP ART UNIT 3652**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)	Confirmation No. 2725
)	
Itaru MOMOKI)	Group Art Unit: 3652
)	
Serial No.: 10/735,614)	Examiner: Donald W. Underwood
)	
Filed: December 16, 2003)	
)	
For: SUBSTRATE CONVEYOR ROBOT)	

RESPONSE TO FINAL REJECTION UNDER 37 CFR 1.116

MAIL STOP: AF
Commissioner for Patents
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Sir:

This paper is in response to the Final Action of May 31, 2005. A petition for a one-month extension of time has today been filed as a separate paper and a copy is attached hereto.

The Final Rejection is respectfully traversed for the reasons that: (1) the examiner is improperly combining elements of a device operable according to a principle A (secondary references) with elements of a device operating according to a different

principle B (Bacchi '444) in a manner which would change the operative principle of B and (2) even if the references were properly combinable, the examiner's hypothetical modification of the Bacchi patent (U.S. 5,765,444) would not be the invention as claimed.

1. The hypothetical modification of Bacchi is contrary to the operative principle Bacchi and contrary to the stated objective of Bacchi

In the "Background of the Invention" of the Bacchi '444 patent, Bacchi explains the shortcomings of the prior art as represented by Abbe et al. U.S. 4,897,015 and Genov et al. U.S. 5,007,784. Briefly, these mechanisms are limited to devices in which a robot arm can be extended and contracted along a straight line path, which path can be rotated about a central axis. The secondary references cited by the examiner here, i.e., Uehara '647 and Poduje '280 are merely cumulative with the Abbe et al. and Genov et al., the prior art discussed by Bacchi, in that these secondary references are also limited to transfer along a straight line extending radially from the center Z axis of the robot, although Poduje has the additional capability of changing the vertical plane through which such arm extension and rotation may be effected. In Abbe et al., Genov et al., Uehara '647 and Poduje '280, the extension and retraction of the robot arm is driven by a single motor. In contradistinction, the operating principle of Bacchi, as explained, for example, at column 3, lines 1-18 of the Bacchi specification, is to employ first and second motors for independent control of different links of the same robot arm, thereby allowing the extending-contracting angles between the links to differ from each other. In Bacchi the shoulder axes 16L and 16R are

intentionally offset from the center Z axis of the robot in order to achieve the objectives of Bacchi. In Bacchi the amount of the offset coincides with half of the distance between neighboring cassettes. See, for example, Figs. 10 and 11 of Bacchi. Accordingly, modification of Bacchi to align a shoulder axis 16 with the center axis Z, which modification the examiner alleges to be obvious, would change the operative principle of Bacchi. Section 2143.02 of the MPEP states:

THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

2. The hypothetical modification of Bacchi does not lead to the present invention

Even if it were a *prima facie* obvious to align a shoulder axis 16 with the central Z axis in Bacchi, the result would not be the present invention.

In rejecting claims 5 and 6 for obviousness, the examiner does not identify prior art elements corresponding to the second motor and first arm as recited in claim 5 here. For purposes of the discussion which follows, it will be assumed that the examiner regards Bacchi motor 92 as the "first motor", Bacchi 52 R as the "second motor" and Bacchi link 14 R as the "first arm" recited in claim 5, as in the rejection for anticipation by Bacchi alone set forth in the previous office action.

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First spindle

The examiner states that Bacchi discloses "a first spindle 80," however, "upper arm spindle 80 R" of Bacchi does not satisfy the definition of the "first spindle" as recited by claim 5 (and claim 6 dependent thereon) here. Note that claim 5 recites that the "first spindle" is rotatably driven by the "second motor." In Bacchi, upper arm spindle 80 R is driven by motor 52 R, not by motor 50 R identified as the "second motor" in the first Office Action.

Second spindle 60

The examiner identifies "post" 60 of Bacchi as meeting the recitation of "a second spindle." However, post 60 of Bacchi does not meet the definition of a "second spindle" as recited by claim 5 here. Note that claim 5 defines the second spindle as "mounted on a second end of the first arm for rotation independent of the rotation of the first arm." In contradistinction, post 60 of Bacchi is integral with "upper arm 14 R" identified by the examiner as the "first arm" in the first Office Action. Because post 60 is fixed to arm 14 R, it cannot rotate "independent of the rotation of the first arm" as recited by claim 5 here.

First rotation transfer means

The examiner identifies elements 58, 68, and "the pulley attached to the lower arm of 60" in Bacchi as meeting the recitation of "first rotation transfer means" of claim 5 here. However, claim 5 defines the "first rotation transfer means" as transferring rotation of the first arm to the second spindle. As noted above, in Bacchi, what the

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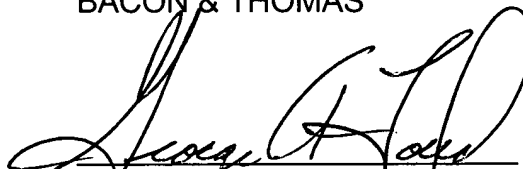
examiner identifies as the first arm (14 R) is integral with what the examiner identifies as the second spindle, and contrary to the examiner's assertion, elements 58 and 68 do not transfer rotation from arm 14 to post 60.

In conclusion, it is respectfully requested that the examiner reconsider the rejection of claims 5 and 6 with the view toward allowance of these pending claims.

Respectfully submitted,

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Date


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